

PEony-12



Installation Guide

PEony-12



Change History

Revision	Date	Author	Remarks
1.0.0	16 July 2010	Ivan Chen	First Release.
1.1.0	9 December 2010	Michael Xu	Updated pictures
1.5.0	26 January 2011	Michael Xu	Minor corrections. Pictures update. For release together with V150 driver release.

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1. Hardware Installation

Follow the steps below to complete the hardware installation.

1.1 Install FlexRIO and PEony

1. Power off the PXI chassis before installing the module.
2. Remove the packaging material on the FlexRIO PXI connector and screws.
3. Slide the FlexRIO module into an empty PXI slot, as shown in Figure 1 below.



Figure 1: Insert FlexRIO Module



As at the release time of this document, only FlexRIO PXI-7952R and PXI-7954R are supported.

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- Slide the module completely into the chassis and latch it by fastening the screws which are highlighted by the red circle in the following picture.



Figure 2: Fasten FlexRIO Screws

- Now take the Lily adapter module for FlexRIO and plug it into the NI FlexRIO's front panel slot. Fasten the screws that are highlighted by the red circles in Figure 3.



Figure 3: Insert Lily Module



6. Plug the Samtec cable connector onto the Lily adapter module and fasten the screws which are highlighted by the red circle in Figure 4. Take note to align the connector notch areas at the corners, as highlighted by the red circles in Figure 5.



Figure 4: Fasten Lily Samtec Cable



Figure 5: Connector Notch

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7. Plug the Samtec cable's female side to PEony card's back-end connector. Again take note of the notch area highlighted by red circles in Figure 6. Fasten the screws that are highlighted by the red circles in Figure 7. Do **NOT** over-tighten the screws.



Figure 6: Cable Female Side

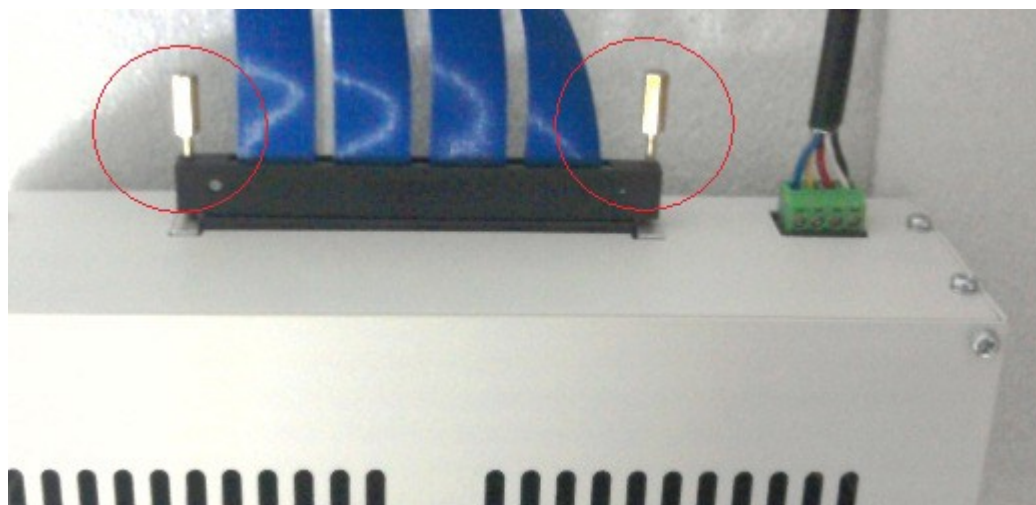


Figure 7: Fasten PEony Samtec Cable



8. Supply +12 V to PEony-12 power input connector using a desktop power supply, as shown in Figure 8. Middle 2 pins of the connector are +12V input and the 2 side pins are ground signals.

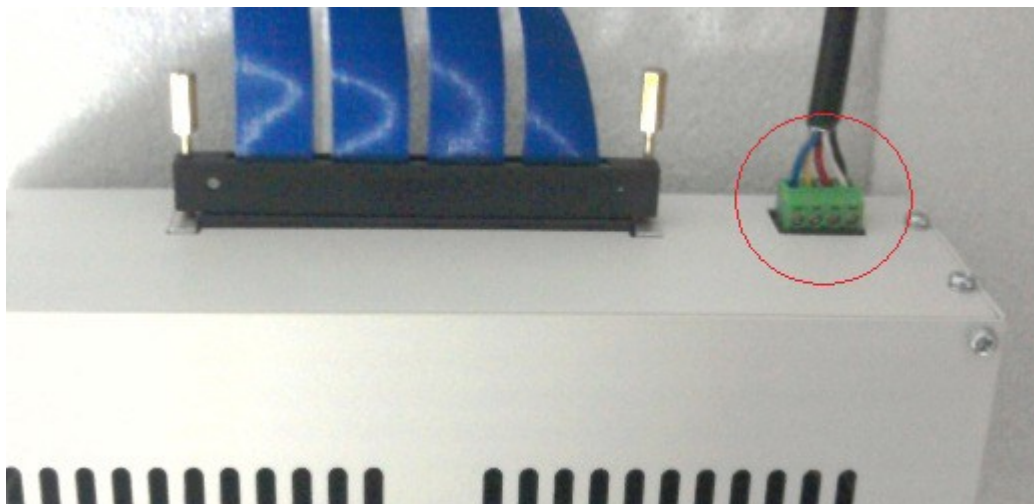


Figure 8: +12V Power Input Connector



1.2 Power-On Sequence

1. If you're using the PC/Laptop MXI-Express card to control the PXI chassis, please remember to power-on the PXI chassis first before turning on PC/Laptop computer.
2. If you are using PXI embedded controller, power on the controller.
3. Turn on PEony +12V power supply.
4. Figure 9 below shows the complete set-up. PEony-12 digital pin card is inside the right-hand-side box. This chassis can be customized to suit different applications as well as to accommodate more PEony cards.

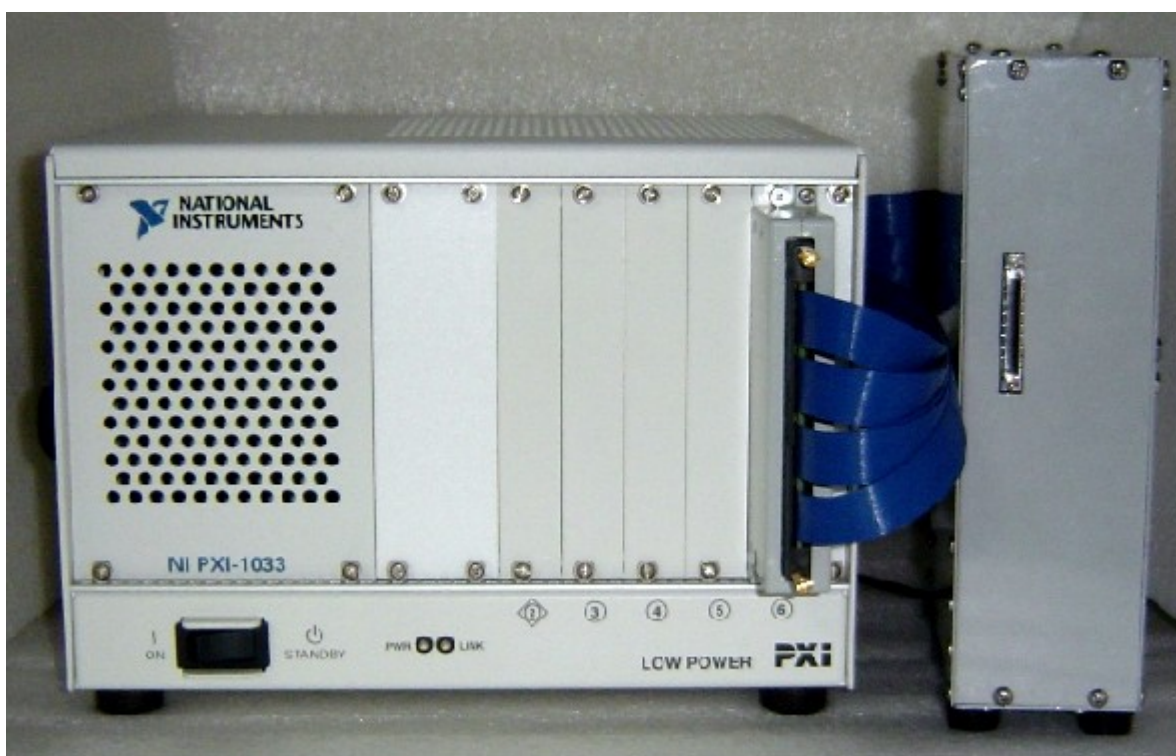


Figure 9: Complete Set-up



2. Software Installation

2.1 Install Software Components

The following software components must be installed prior to the use of PEony-12. Use Measurement & Automation Explorer to verify the software version (see Figure 10 below).

- NI LabVIEW Run-Time Engine 9.0 (<http://joule.ni.com/nidu/cds/view/p/id/1383/lang/en>)
- NI-RIO 3.2.1 (<http://joule.ni.com/nidu/cds/view/p/id/1386/lang/en>)
- NI PXI Platform Services 2.5.1 (<http://joule.ni.com/nidu/cds/view/p/id/1381/lang/en>). This driver is typically included with NI-RIO hardware driver installation.

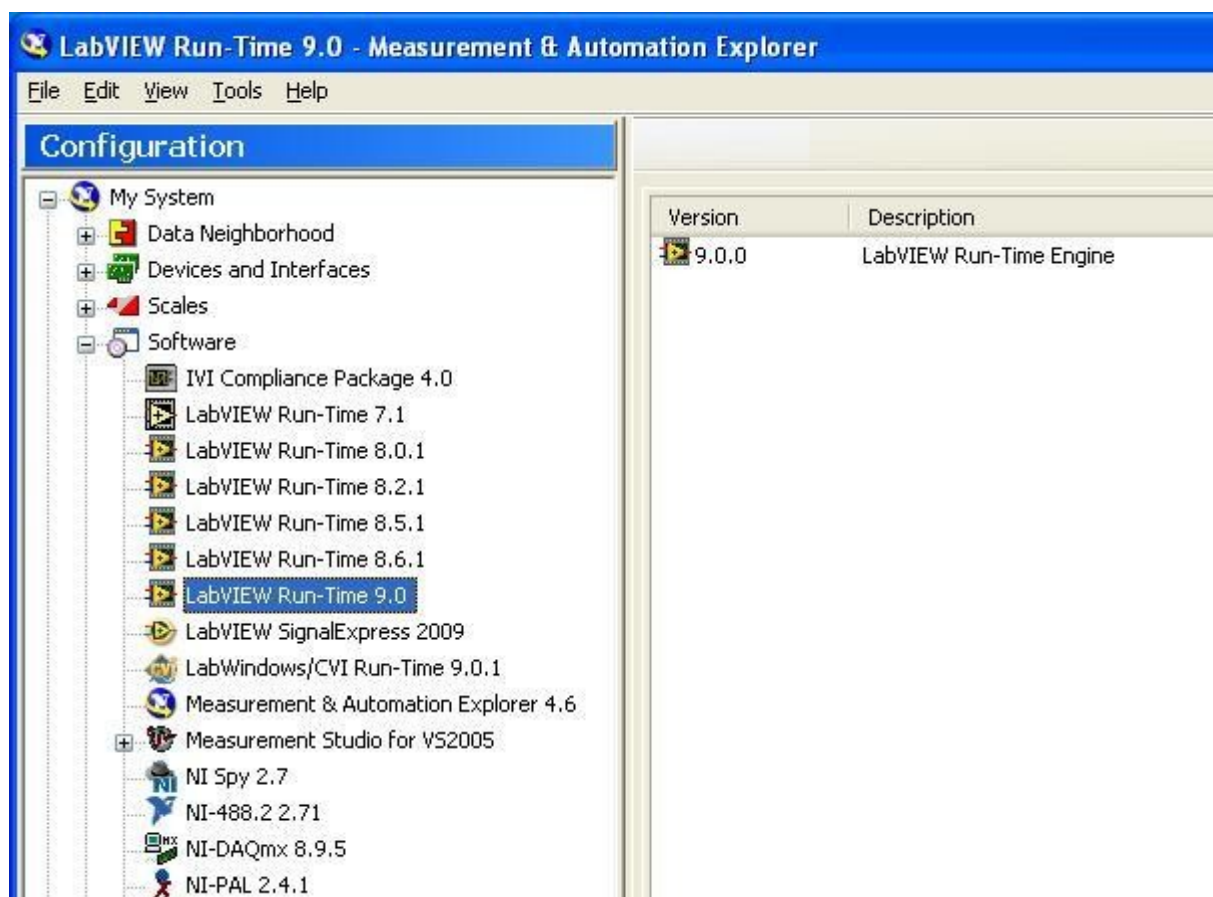


Figure 10: Verify Software Version



2.2 FlexRIO Resource Name

After installing all the software components, please take note of the FlexRIO resource name in NI Measurement & Automation Explorer, as shown in Figure 11 below. Alias names are NOT supported. More than one FlexRIO cards can be inside the same system to support multiple PEony cards and they will be identified by their resource names (e.g. RIO0, RIO1, RIO2 etc.).

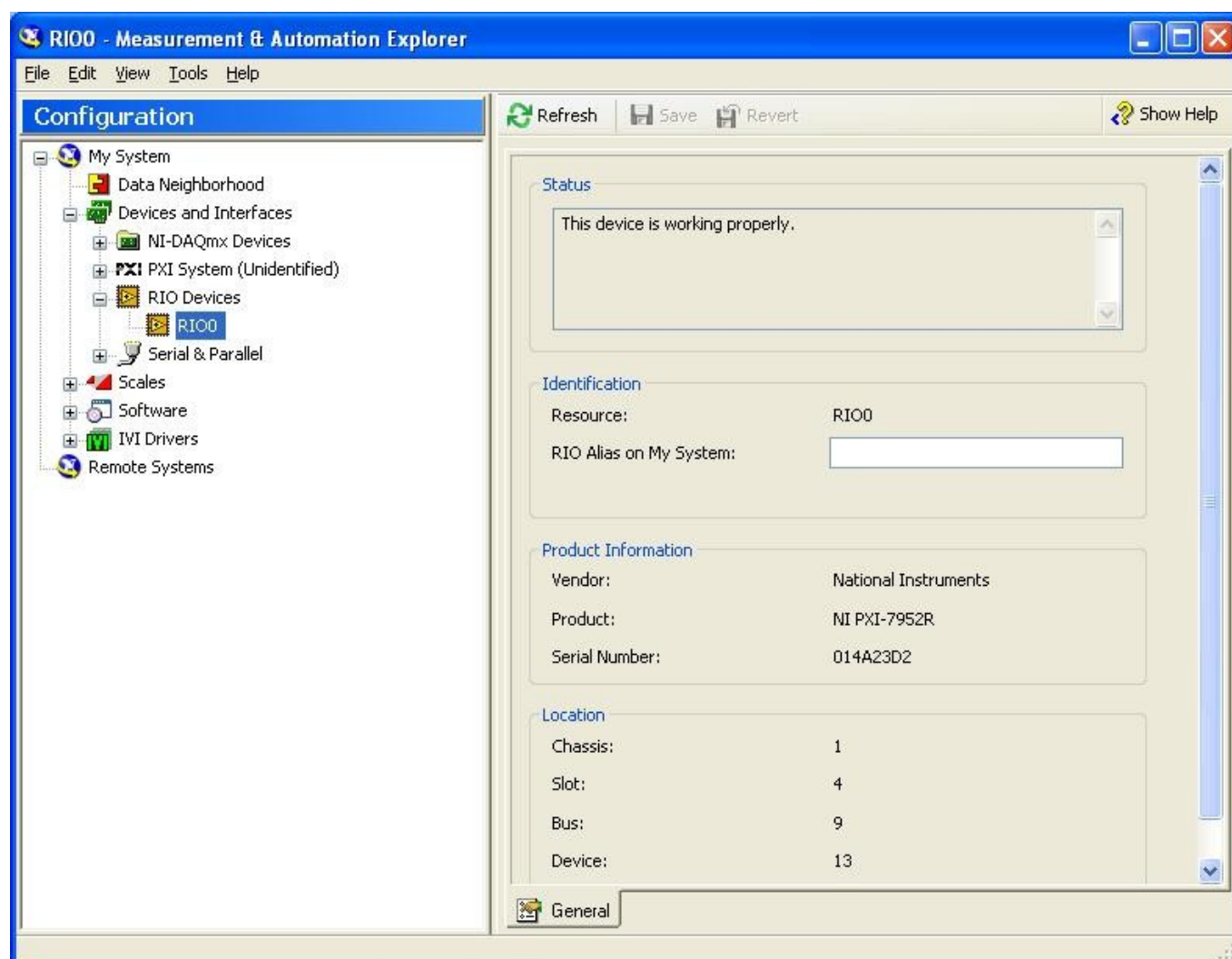


Figure 11: FlexRIO Resource Name



3. Calibration Data

Calibration data is stored in the EEPROM onboard PEony. The first time you run Initialization on a new system (remote PC connected to the PXI system or PXI embedded controller), it will take a couple of minutes for the software driver to load the calibration data from the EEPROM.

Subsequently, software driver will load the data from a calibration file, thus speed up the loading of calibration data.



4. Developing Applications

Custom applications can be developed using PEony's 32-bit DLL functional driver or LabVIEW 2009 VI functional driver. The following driver APIs are provided.

- PeonyDriver.dll & PeonyDriver.h
- LabVIEW VI functional driver.zip

For detailed description of all the available DLL functions and LabVIEW 2009 VI functional driver, refer to **PEony-12 DLL Functional Driver User Manual** or **PEony-12 LabVIEW VI Functional Driver User Manual**.